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THE UTILIZATION OF ERTS-I-GENERATED PHOTOGRAPHS IN THE EVALUATION OF THE IRANIAN PLAYAS AS POTENTIAL LOCATIONS FOR ECONOMIC AND ENGINEERING DEVELOPMENT

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E74-10298) THE UTILIZATION OF ERTS-1-GENERATED PHOTOGRAPHS IN THE EVALUATION OF THE IRANIAN PLAYAS AS POTENTIAL LOCATIONS (Geological Survey, Reston, Va.) ~~2~~ 3 p HC $3.00 CSCL 08H G3/13 N74-17087 Unclas 00298

Type I Progress Report
ERTS-I

a. Title: The Utilization of ERTS-I Generated Photographs in the Evaluation of the Iranian Playas as Potential Locations for Economic and Engineering Development

ERTS-I Proposal No.: SR 195

b. GSFC 10 No. of P.I.: IN 037

c. No problems were encountered during this reporting period.

d. Accomplishments during the reporting period:

1. Extensive use was made of false-color composites containing 2 to 4 bands. Twenty frame areas were inspected and 2 to 7 scenes of several of these 20 areas were investigated. In all, more than 100 color composites of 30 scenes have been studied.

2. A map was prepared that shows the progressive inundations of a playa (Kashan) through the seasons. The three-stage masking technique that was used is as follows: (1) a negative was prepared from the ERTS-I 9.5-inch positive of each of the scene's band 7; (2) a sandwich was made of the scene's negative band 7 and positive band 4; (3) a positive was made from this sandwich; and (4) a false-color composite was made from the several positives, each representing a stage in the inundation of the playa.

3. Ratioed and stretched transparencies made from CCT's of ERTS-1 have been used to prepare false-color composites. Four colors (red, green, blue, and yellow) of each of the

6 ratios have been used in various combinations to enhance water content, and morphologic differences in playa soils.

e. Scientific results:

1. Hydrologic inventories, throughout the year, were made in interior basins that have not been measured previously because of their inaccessibility.
2. Interior basins during the last ERTS-I year (August 1972 to August 1973) had driest ground conditions in late September 1972 and had wettest ground conditions from March through May 1973, depending upon location.
3. Bearing strengths of playa soils can be inferred from the changing hydrologic conditions through the seasons as recorded by ERTS-I, with prior ground control.
4. Slight differences in salt-crust morphology and in moisture contest of playa soils can be greatly enhanced by ratioing and stretching techniques.
5. Differences in water area and silt content can be enhanced by using a three-stage photographic masking technique employing bands 4, 5, and 7.

f. No papers have been published to date.

g. There are no recommendations at this time.

h. No changes (corrections) were made in the Standing Order Forms during this reporting period.

i. There are no ERTS Image Description forms completed at this time.

j. Data Request forms have been used during this reporting period.